

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A power transmission chain entrainable between a first pulley possessing conical sheave surfaces and a second pulley possessing conical sheave surfaces, the power transmission chain comprising:

a plurality of links each possessing through holes;

a plurality of pins inserted through the through-holes for interconnecting the plurality of links, the power transmission chain transmitting power by way of contact between opposite end faces of each of the pins and the sheave surfaces of the first and second pulleys; and

a plurality of strips inserted through the through-holes for interconnecting the plurality of links, each strip contacting one of the plurality of pins in the corresponding through-hole,

wherein all the plurality of pins substantially have the same length in the longitudinal direction thereof, and the plurality of pins include plural types of pins having different rigidities in the longitudinal direction thereof, and

wherein at least one of the plurality of links possesses two through-holes of different configurations respectively corresponding to said plural types of pins having different rigidities.

2. (Currently Amended) A power transmission chain entrainable between a first pulley possessing conical sheave surfaces and a second pulley possessing conical sheave surfaces, the power transmission chain comprising:

a plurality of links;

a plurality of pins for interconnecting the plurality of links, the power transmission chain transmitting power by way of contact between opposite end faces of each of the pins and the sheave surfaces of the first and second pulleys; and

a plurality of strips for interconnecting the plurality of links, each strip contacting a corresponding one of the plurality of pins,

wherein all the plurality of pins substantially have the same length in the longitudinal direction thereof, and the plurality of pins include plural types of pins having different sectional shapes or sectional areas as determined on a section perpendicular to the longitudinal direction thereof, and

wherein at least one of the plurality of links possesses two through-holes of different configurations respectively corresponding to said plural types of pins having different sectional shapes or sectional areas.

3. (Previously Presented) A power transmission chain according to Claim 1, wherein each of the plurality of pins substantially has the same sectional shape and sectional area as determined at any point of the overall longitudinal length thereof, and the plurality of pins include said plural types of pins having different sectional areas.

4. (Previously Presented) A power transmission chain according to Claim 1, wherein each of said plural types of pins has a different width with respect to a chain longitudinal direction compared to the other plural types of pins,
the plurality of links include plural types of links having different pitches, and
a link of the plurality of links having a greater pitch is penetrated by a pin of the plurality of pins having a greater width with respect to the chain longitudinal direction.

5. (Previously Presented) A power transmission chain according to Claim 1, wherein out of said plural types of pins having different sectional areas, a sectional area of a thickest pin of said plural types of pins is 1.1 times or more and twice or less a sectional area of a thinnest pin of said plural types of pins.

6. (Currently Amended) A power transmission chain entrainable between a first pulley possessing conical sheave surfaces and a second pulley possessing conical sheave surfaces, the power transmission chain including plural chain friction transmission members, the power transmission chain transmitting power by way of contact between opposite end faces of each of the plural chain friction transmission members and the sheave surfaces of the first and second pulleys, the chain friction transmission members arranged along a chain longitudinal direction at predetermined space intervals,
the chain comprising:

a plurality of links each possessing first and second through-holes arranged in the chain longitudinal direction;

a plurality of first pins and a plurality of strips, each of the plurality of first pins and the plurality of strips penetrates the first through-hole of one link and the second through-hole of an adjacent link thereby interconnecting the links, adjoining in a chain widthwise direction, in a manner to provide bending in the chain longitudinal direction, wherein the first pin fixed in the first through-hole of the one link and movably fitted in the second through-hole of the other link and the strip movably fitted in the first through-hole of the one link and fixed in the second through-hole of the other link are brought into relative movement in rolling contact thereby permitting the bending of the chain, and wherein a locus of contact position between the first pin and the strip is defined by an involute of a circle and the plurality of first pins includes pins of two or more different widths in the chain longitudinal direction such that the first pins and the strips are combined to form two or more types of pairs which provide involutes of base circles having different radii, and

wherein the plural chain friction transmission members include plural types of chain friction transmission members which have mutually different rigidities against force acting in the chain widthwise direction, and

wherein the first pin is a transmission pin also serving as the chain friction transmission member, and

wherein at least one of the plurality of links possesses the first and second through-holes of different configurations respectively corresponding to the pins of two or more different widths.

7. (Original) A power transmission chain according to Claim 6, wherein all the chain friction transmission members substantially have the same length in the longitudinal direction thereof.

8. (Previously Presented) A power transmission chain according to Claim 6, wherein the plural chain friction transmission members include plural types of chain friction transmission members having different sectional shapes or sectional areas as determined on a section perpendicular to the chain widthwise direction.

9. (Cancelled)

10. (Previously Presented) A power transmission chain according to Claim 6, wherein the plural transmission pins include plural types of transmission pins having different chain-longitudinal widths as determined on a section perpendicular to a pin-longitudinal direction, and wherein the plurality of links include plural types of links having different pitches.

11. (Previously Presented) A power transmission assembly comprising:

a first pulley possessing conical sheave surfaces;

a second pulley possessing conical sheave surfaces; and

a power transmission chain according to Claim 1 entrained between the first and second pulleys.

12. (Previously Presented) A power transmission chain according to Claim 2, wherein each of the plurality of pins substantially has the same sectional shape and sectional area as determined at any point of the overall longitudinal length thereof, while the plurality of pins include plural types of pins having different sectional areas.

13. (Previously Presented) A power transmission chain according to Claim 2, wherein each of said plural types of pins has a different width with respect to a chain longitudinal direction compared to the other plural types of pins,

the plurality of links include plural types of links having different pitches, and

a link of the plurality of links having a greater pitch is penetrated by a pin of the plurality of pins having a greater width with respect to the chain longitudinal direction.

14. (Previously Presented) A power transmission chain according to Claim 3, wherein each of said plural types of pins has a different width with respect to a chain longitudinal direction compared to the other plural types of pins,

the plurality of links include plural types of links having different pitches, and

a link of the plurality of links having a greater pitch is penetrated by a pin of the plurality of pins having a greater width with respect to the chain longitudinal direction.

15. (Previously Presented) A power transmission chain according to Claim 2, wherein out of the plural types of pins having different sectional areas, a sectional area of the thickest pin is 1.1 times or more and twice or less the sectional area of the thinnest pin.

16. (Previously Presented) A power transmission chain according to Claim 3, wherein out of the plural types of pins having different sectional areas, a sectional area of the thickest pin is 1.1 times or more and twice or less the sectional area of the thinnest pin.

17. (Previously Presented) A power transmission chain according to Claim 4, wherein out of the plural types of pins having different sectional areas, a sectional area of the thickest pin is 1.1 times or more and twice or less the sectional area of the thinnest pin.

18. (Previously Presented) A power transmission chain according to Claim 7, wherein the plural chain friction transmission members include plural types of chain friction transmission members having different sectional shapes or sectional areas as determined on a section perpendicular to the chain widthwise direction.

19-20. (Cancelled)

21. (Previously Amended) A power transmission chain according to Claim 2, wherein said plural types of pins have different rigidities in the longitudinal direction thereof.

22. (Previously Presented) A power transmission chain according to Claim 1, wherein opposite end faces of each of the strips do not contact the sheave surfaces of the first and second pulleys.

23. (Previously Presented) A power transmission chain according to Claim 2, wherein opposite end faces of each of the strips do not contact the sheave surfaces of the first and second pulleys.

24. (Previously Presented) A power transmission chain according to Claim 6, wherein opposite end faces of each of the strips do not contact the sheave surfaces of the first and second pulleys.